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# ON LIKENESS OF MEANING[1]

*By* NELSON GOODMAN

UNDER what circumstances do two names or predicates in an ordinary language have the same meaning? Many and widely varied answers have been given to this question, but they have one feature in common: they are all unsatisfactory.

One of the earliest answers is to the effect that two predicates have the same meaning if they stand for the same real Essence or Platonic Idea; but this does not seem to help very much unless we know, as I am afraid we do not, how to find out whether two terms stand for the same Platonic Idea.

A more practical proposal is that two terms have the same meaning if they stand for the same mental idea or image; or in other words, that two predicates differ in meaning only if we have a mental picture of something that satisfies one but not the other of the two. Thus even though in fact all and only pelicans have gallon-sized bills, we can easily imagine a sparrow or a kangaroo with a gallon-sized bill; and thus the predicates " is a pelican " and " has a gallon-sized bill ", even though satisfied by exactly the same actual individuals do not have the same meaning. There are two familiar difficulties with this theory. In the first place, it is not very clear just what we can and what we cannot imagine. Can we imagine a man ten miles high or not? Can we imagine a tone we have never heard? To decide these cases is only to be confronted by new and harder ones. But the second and more serious difficulty is that of predicates that pretty clearly have no corresponding image, such as "clever " or " supersonic ". Of course there is imagery associated with these terms; but that is hardly to the point. There is imagery associated with with nonsense syllables.

The image theory thus sometimes give way to the concept theory :—the theory that two predicates differ in meaning if and only if we can conceive of something that satisfies one but not the other. This enables us to transcend the narrow boundaries of imagination, but unfortunately it hardly seems to provide us with any criterion at all. Presumably we can conceive a five-dimensional body since we can define it although we cannot imagine it. But similarly we can define a square circle very easily

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(as a rectangle with four equal sides and such that every point of it is equidistant from a centre) or a five-sided triangle. If it be objected that because such definitions are not self-consistent they do not represent genuine concepts, I must point out that the claim of inconsistency here can be supported only by appeal to just such meaning-relationships as we are trying to explain. We cannot use them in trying to define them. If the objection is put rather in the form that although we can define a square-circle, there is no possible thing that can satisfy the definition, then it is clear that we are not judging possibility by conceivability but rather judging conceivability by possibility. Our criterion of sameness of meaning has thus changed: we are saying that two predicates have the same meaning if and only if there is nothing possible that satisfies one but not the other.

The possibility theory is somewhat ambiguous. Does it say that two terms differ in meaning only if it is possible that there is something that satisfies one but not the other ? If that is all, then any two terms we know to have the same extension have the same meaning. If I know that Mr. Jones is in New York, I no longer regard it as possible that he is not in New York; and similarly if I know that two predicates are satisfied by exactly the same individuals, the possibility is excluded that they are not satisfied by the same individuals. But this formulation seldom satisfies proponents of the possibility theory, who will cite cases of terms that, even though they are known to have the same extension, have different meanings. The thesis, they say, is rather that two predicates differ in meaning if there " might have been " something that satisfied one but not the other; or in other words, if there is a possible but non-actual entity that does satisfy one but not the other predicate. The notion of possible entities that are not and cannot be actual is a hard one for many of us to understand or accept. And even if we do accept it, how are we to decide when there is and when there is not such a possible that satisfies one but not the other of two terms ? We have already seen that we get nowhere by appealing to conceivability as a test of possibility. Can we, then, determine whether two predicates " *P* " and " *Q* " apply to the same possibles by asking whether the predicate " is a P or a Q but not both " is self-consistent ? This is hardly helpful; for so long as " *P* " and " *Q* " are different predicates the compound predicate is logically self-consistent, and we have no ready means for determining whether it is otherwise self-consistent Indeed the latter question amounts to the very question whether " *P* " and " *Q* " have the same meaning. And since we began by asking how to determine when two predicates have the same meaning, we are back where we started.

All these difficulties suggest that we might try the very different and radical theory that two predicates have the same meaning if and only if they apply to exactly the same things—or in other words, have the same extension. This thesis has been attacked more often than it has been advanced ; but some of the familiar arguments against it seem to me worthless. An example is the absurd argument that the extension of a term is different at different times and that therefore by this thesis two terms may be synonymous at one time and not at another. The extension of a predicate consists, of course, of everything past, present, and future, to which the term applies ; neither the making or the eating of cakes changes the extension of the term " cake ".

Certain other similar arguments apply not against the thesis that two terms have the same meaning if they have the same extension, but against the different thesis—that does not concern us here—that the extension of a term is its meaning. For example, against the latter thesis, one may argue as follows :—before we can investigate whether a given predicate " *P* " applies to a given thing *a* we must know what " *P* " means, and if the meaning of " *P* " is its extension we must know the extension of " *P* "—and therefore must know whether it applies to *a*—before we can set about finding out whether " *P* " applies to *a*. But this argument does not apply against the weaker thesis that two predicates have the same meaning if they have the same extension ; for obviously we may decide by induction, conjecture, or other means that two predicates have the same extension without knowing exactly all the things they apply to.

And yet, while many of the apparent objections seem to me unsound, I think we cannot maintain the unqualified thesis that two predicates have the same meaning if they have the same extension. There are certain clear cases where two words that have the same extension do not have the same meaning. " Centaur " and " unicorn ", for example, since neither applies to anything, have the same (null) extension ; yet surely they differ in meaning. I do not mean to suggest that identity of extension with difference of meaning occurs only where the extension is null, but such cases are enough and are the most striking.

Now the precise way in which the proposed thesis failed must be particularly noted. Obviously if two terms have the same meaning they have the same extension ; the trouble is that two terms may have the same extension and yet not have the same meaning. Extensional identity is a necessary but not a sufficient condition for sameness of meaning. In other words, difference of extension does not draw distinctions as fine as those drawn by difference of meaning.

Does this mean, then, that we must return to the dismal search through Never-Never land for some ghostly entities called " meanings " that are distinct from and lie between words and their extensions ? I don't think so. Despite the obvious inadequacy of the thesis we have been considering, I think that difference of meaning between any two terms can be fully accounted for without introducing anything beyond terms and their extensions. For while it is clear that difference in meaning of two terms " *P* " and " *Q* " is not always accompanied by difference in extension, I think it is always accompanied by difference in the extension of certain terms other than" *P* " and " *Q* ". Let me explain :

Since there are no centaurs or unicorns, all unicorns are centaurs and all centaurs are unicorns. Furthermore, all uncles of centaurs are uncles of unicorns ; and all feet of unicorns are feet of centaurs. How far can we generalize on this ? Leaving aside absurd or ungrammatical variations, we must exclude the analogues in terms of " thoughts ", or " concepts " or even " meaning " itself ; for there is no guarantee that thoughts of centaurs are thoughts of unicorns. This is usually attributed to the mental reference or the vagueness of such terms. We have in logic the theorem that if all $\alpha$'s are $\beta$'s, then all the things that bear the relation P to an $\alpha$ are things that bear the relation P to a $\beta$ (see *Principia Mathematica*, 37.2) ; and it might naturally be supposed that this guarantees the truth of sentences like those we have been considering about centaurs and unicorns, provided the phrases involved apply only to physical objects if to anything. But actually this is not the case ; for *pictures*—i.e. paintings, drawings, prints, statues—are physical objects, yet not all pictures of centaurs are pictures of unicorns, nor are all pictures of unicorns pictures of centaurs. At first sight this seems to violate the cited theorem of logic, Actually, what it shows is that " picture of " is not always a relation-term like " foot of " or " uncle of ". If $x$ is a foot of centaur, then $x$ bears the relation " foot of " to some $y$ that is a centaur. Thus if there is any foot of a centaur or any uncle of a centaur then there is a centaur. But in contrast, if there is—as indeed there is —something that is a picture of a centaur, we cannot infer that there is some centaur—as there certainly is not. A phrase like " picture of a centaur " is a single predicate, and the fact that it applies to one or many things plainly does not enable us to conclude that there are objects that these things are pictures of. To avoid the temptation to make such unjustified inferences, perhaps we had better speak during the rest of our discussion not of " pictures of " centaurs or unicorns but rather of centaur-pictures ", and " unicorn-pictures ", etc.

A centaur-picture differs from a unicorn-picture not by virtue of its resemblance to a centaur and lack of resemblance to a unicorn; for there are neither unicorns nor centaurs. " Centaur-picture " and " unicorn-picture " merely apply to different objects just as " chair " and " desk " apply to different objects, and we need no more ask why in the one case than in the other. The simple fact is that although " centaur " and " unicorn " apply to nothing and so have the same extension, the term " centaur-picture " applies to many things and the term " unicorn-picture " applies to many others.

Now the important point here is this : Although two words have the same extension, certain predicates composed by making identical additions to these two words may have different extensions. It is then perhaps the case that for every two words that differ in meaning either their extensions or the extensions of some corresponding compounds of them have different extensions ? If so, difference of meaning among extensionally identical predicates can be explained as difference in the extensions of certain other predications. Or, if we call the extension of a predicate by itself its *primary* extension, and the extension of any of its compounds a *secondary* extension, the thesis is formulated as follows : two terms have the same meaning if and only if they have the same primary and secondary extensions. Let us, in order to avoid entanglement with such terms as " thought of . . . ", " concept of . . . ", " attribute of . . . ", and " meaning of . . . ", exclude from consideration all predicates that apply to anything but physical things, classes of these, classes of classes of these, etc. If the thesis is tenable, we have answered our question by stating, without reference to anything other than terms and the things to which they apply, the circumstances under which two terms have the same meaning.

This explanation takes care of well-known cases discussed in the literature. For instance, Frege has used the terms" (is the) Morningstar " and " (is the) Eveningstar " as examples of two predicates that have the same extension—since they apply to the same one thing—but obviously differ in meaning. This difference of meaning is readily explained according to our present thesis, since the two terms differ in their secondary extensions. There are, for example, " Morningstar-pictures " that are not " Eveningstar-pictures "—and also, indeed, " Evening-star-pictures " that are not " Morningstar-pictures ".

But is our thesis satisfactory in general ? Perhaps the first question that arises is whether it takes care of cases where we have two terms " *P* " and " *Q* " such that there are no *P*-pictures or *Q*-pictures—say where " *P* " and " *Q* " are predicates applying to odors or electric charges. These present no difficulty ; for the secondary extensions of a predicate " *Q* " consist not merely of the extension of " *Q*-picture " but also of the extensions of " *Q*-diagram ", " *Q*-symbol " and any number of other such compound terms. Indeed *actual word-inscriptions* are as genuine physical objects as anything else ; and so if there is such an actual physical inscription that is a *P*-description and is not a *Q*-description, or vice-versa, then " *P* " and " *Q* " differ in their secondary extensions and thus in meaning.

This makes it look more and more as if every difference in meaning will be reflected by a difference in primary or secondary extension. Indeed, I think we can now show this to be true. For, given any two predicates whatsoever, say " *P* " and " *Q* ", do we not have in an inscription of the phrase " a *P* that is not a *Q* " something that is a *P*-description and not a *Q*-description ? Clearly the predicate " centaur-description " applies while the predicate " unicorn-description " does not apply to an inscription of " a centaur that is not a unicorn ". Likewise, the predicate " acrid-odor-description " applies while the predicate " pungent-odor-description " does not apply to an inscription of " a pungent odor that is not an acrid odor " ; and thus the two predicates " pungent-odor " and " acrid-odor "—whatever may be the relationship of their primary extensions—differ in secondary extension and thus in meaning. Again " triangle " and " trilateral " differ in meaning because " triangle that is not trilateral" is a triangle-description but not a trilateral-description. We do not, however, get the absurd result that " triangle " differs in meaning from " triangle " ; for of course it is not the case that " triangle that is not a triangle " is and is not a triangle-description.

But now see how far we have come. If difference of meaning is explained in the way I have proposed, then *no two different words have the same meaning*. We have assuredly answered the complaint that in terms of extensions alone we cannot draw fine enough distinctions. Here we get distinctions that are as fine as anyone could ask. But now we risk the opposite complaint : for can we accept the conclusion that a word has the same meaning as no word other than itself ?

Before we decide that we cannot tolerate this conclusion, let me note that in the course of developing our criterion we have incidentally shown that there are no two predicates such that they can be replaced by the other in every sentence without changing the truth-value, *even if we exclude all the so-called intensional contexts in which such words as* " necessary ", " possible ", " attribute of ", or " thought of " occur. Thus if we maintain that two different words have the same meaning, their lack of interreplaceability in some non-intensional context can immediately be offered as evidence that the words do not have the same meaning. It seems apparent, therefore, that the demands we commonly make upon a criterion of sameness of meaning can be satisfied only if we recognize that no two different predicates ever have the same meaning.

Theoretically, then, we shall do better never to say that two predicates have the same meaning but rather that they have a greater or lesser degree, or one or another kind, of *likeness* of meaning. In ordinary speech when we say that two terms have the same meaning, we usually indicate only that their kind and degree of likeness of meaning is sufficient for the purposes of the immediate discourse. This is quite harmless. But we must remember that the requirements vary greatly from discourse to discourse ; often it is enough if two terms have the same primary extension ; in other cases, identity in certain secondary extensions or others is also required. If we overlook this variation and seek a fixed criterion of sameness of meaning that will at once conform to these differing usages and satisfy our theoretical demands, we are doomed to perpetual confusion.

Just a few further words to suggest a bearing this paper has on another question. It is sometimes said that a sentence like " All *A's* are *B's* " is *analytic* if the meaning of *B* is contained in that of *A*. Our investigation has shown not only that two different predicates like " *A* " and " *B* " never have quite the same meaning ; but further that, so to speak, neither is meaning-included in the other ; for there is an *A*-description that is not a *B*-description, *and* a *B*-description that is not an *A*-description. Thus, at least according to the suggested interpretation of " analytic ", no non-repetitive statement will be analytic. The most we can say is that it is more, or less, nearly analytic. This will be enough to convince many of us that likewise a non-repetitive statement is never absolutely necessary, but only more or less nearly so.

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